

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claims 2 and 7 have been cancelled, while claims 1 and 5 have been amended to include the limitations of cancelled claim 2. In addition, the claims have been amended for clarity.

The Examiner has rejected claims 1, 2 and 4-6 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,111,960 to Aarts et al. The Examiner has further rejected claims 1, 2, 5 and 6 under 35 U.S.C. 102 (b) as being anticipated by International Patent Application No. WO 02/086867 A1 to Nilsson et al. In addition, the Examiner has rejected claims 1, 3, 5 and 6 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0097807A1 to Gerrits. Furthermore, the Examiner has rejected claims 7 and 8 under 35 U.S.C. 103(a) as being unpatentable over Aarts et al. Finally, the Examiner has rejected claims 7 and 8 under 35 U.S.C. 103(a) as being unpatentable over Gerrits.

The Aarts et al. patent discloses circuit, audio system and method for processing signals, and a harmonics generator, in which high frequency output components are generated by applying e.g., a squaring function to first components in the input signal. For example, if output components are desired in a first frequency range between 10 and 12kHz, they can be generated by the squaring function which doubles the frequency of first components in a predetermined second frequency range between 5 and 6kHz. This is

useful, e.g., when the input audio signal is obtained by decompressing compressed audio like MP3 audio, in which no high frequency information is present. The lack of high frequency components results in that the audio sounds unnatural. The squaring function is a technically simple way to generate high frequency audio components.

As indicated in MPEP §2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

While the subject invention may be related to system and method of Aarts et al., Applicant submits that Aarts et al. neither discloses or suggests "a first output energy measure, over a predetermined first time interval, of the output components generated is set, based upon a first input energy measure calculated over a predetermined second time interval of second input components, in a predetermined third frequency range of the input audio signal, wherein the predetermined third frequency range is different from the predetermined second frequency range, and is selected from a predetermined number of frequency ranges, as the

frequency range which is closest to the first frequency range according to a predetermined frequency range distance formula".

In particular, the Examiner indicates that Aarts et al. discloses "a first output energy measure, over a predetermined first time interval, of the output components generated is set, based upon a first input energy measure (col. 5, lines 28-32) calculated over a predetermined second time interval (although not clearly defined, the energy is inherently calculated based on a predetermined time interval) of second input components (after 20), in a predetermined third frequency range (as set by 20) of the input audio signal".

Applicant submits, however, that this "third frequency range" is in fact, the second frequency range. Claim 1 specifically states "the predetermined third frequency range is different from the predetermined second frequency range". Moreover, Aarts et al. neither discloses nor suggests that the third frequency range "is selected from a predetermined number of frequency ranges, as the frequency range which is closest to the first frequency range according to a predetermined frequency range distance formula".

The Nilsson et al. patent discloses bandwidth extension of acoustic signals in which a narrow band acoustic signal is fed to a feature extraction unit 101, an up-scaler 102 and an excitation expansion unit 105, each having associated circuitry for processing the narrow band acoustic signal in order to improve the perceived sound quality of a decoded acoustic signal. The improvement is

accomplished by means of extending the spectrum of the received acoustic signal.

However, Applicant submits that, as with Aarts et al., Nilsson et al. neither discloses nor suggests "a first output energy measure, over a predetermined first time interval, of the output components generated is set, based upon a first input energy measure calculated over a predetermined second time interval of second input components, in a predetermined third frequency range of the input audio signal, wherein the predetermined third frequency range is different from the predetermined second frequency range, and is selected from a predetermined number of frequency ranges, as the frequency range which is closest to the first frequency range according to a predetermined frequency range distance formula".

The Gerrits patent discloses a wideband signal transmission system in which a transmission system (10) comprises a transmitter (12) for transmitting an input signal to a receiver (14) via a transmission channel (16). The transmitter (12) comprises a splitter (20) for splitting up the input signal into at least first and second frequency band signals. The transmitter (12) further comprises a first encoder (22) for encoding the first frequency band signal into a first encoded frequency band signal and a second encoder (24) for encoding the second frequency band signal into a second encoded frequency band signal. The transmitter (12) is arranged for transmitting the first and second encoded frequency band signals via the transmission channel (16) to the

receiver (14). The receiver (14) comprises a first decoder (26) for decoding the first encoded frequency band signal into a first decoded frequency band signal and a second decoder (28) for decoding the second encoded frequency band signal into a second decoded frequency band signal. The receiver (14) further comprises a combiner (30) for combining the first and second decoded frequency band signals into an output signal and reconstruction means (48) for reconstructing the second decoded frequency band signal when the second decoded frequency band signal is not available. The transmission system (10) is characterized in that the reconstruction means (48) are arranged for reconstructing the second decoded frequency band signal from the first decoded frequency band signal. In this way, errors occurring in the receipt or decoding of the second frequency band signal can be concealed by reconstructing the missing part(s) on the basis of the first frequency band signal which was received and decoded correctly. Preferably, this reconstruction is done by means of bandwidth extension.

However, Applicant submits that Gerrit neither discloses nor suggests "a first output energy measure, over a predetermined first time interval, of the output components generated is set, based upon a first input energy measure calculated over a predetermined second time interval of second input components, in a predetermined third frequency range of the input audio signal, wherein the predetermined third frequency range is different from the predetermined second frequency range, and is selected from a

predetermined number of frequency ranges, as the frequency range which is closest to the first frequency range according to a predetermined frequency range distance formula".

In view of the above, Applicant believes that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicant believes that this application, containing claims 1, 3-6 and 8, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by /Edward W. Goodman/
Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611